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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,403	08/28/2003	Hugo Cheung	TI-32740.1	6534

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EXAMINER

HUYNH, KIM NGOC

ART UNIT

PAPER NUMBER

2182

DATE MAILED: 03/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/650,403

Applicant(s)

CHEUNG, HUGO

Examiner

Kim Huynh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Preliminary amendment filed 3/28/03.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Thomsen et al. (US 5,278,956) or Chung (US 5,587,953).

Claims 15, Thomsen discloses an apparatus hence a method for buffering technique for facilitate high data rate having steps of: initializing a buffer 101 by writing to a data register (writing data to location designated by write pointer 102, col. 3, ll. 10-17) and performing transmitting and receiving buffering sequences via shift registers 19-20 and for performing transmitting and receiving shifting sequences substantially at the same time (by the fact that the apparatus having receiver and transmitter shift registers for transmitting data substantially at the same time; the architecture of two separate serial shift register, receive and transmit shift registers 19-20 (see Fig. 4B), allows full duplex communication, transmission of data at the same time or soon after data transmission).

As for claim 16, Thomsen discloses a write pointer 102 (write address counter serves a the pointer since it contains the Write address location).

As for claims 17 and 19, Thomsen discloses transmitting and receiving buffering steps are performed via the increment of the write/read address counter 100-102 and read/write shift register (as data are shifted through receiver and transmitter shift register 19 and 21).

Claim 18, Thomsen discloses transmitting and receiving shifting steps comprising reading data from a location in the buffer designated by a shift pointer 100, writing data to a transmit shift register 21, shifting of the transmit shift register (operation of the shift register when receiving data), and receiving and storing new data received in a received shift register 19 in a location designated by the read pointer 100 (see Figs 3 and 4B).

As for claim 20, Thomsen discloses interrupting the CPU if data is ready for transmit/receive or buffer is approximately full/empty.

Claim 21, Thomsen discloses an apparatus hence a method for providing data to a serial interface to facilitate high data rates having a single buffer 12 which including step of indicating a location in a single buffer where data can be read from and written to (col. 1, ll. 63-65 and col. 2, ll. 30-33, the variable depth FIFO 101 where the FIFO is use as either the receiver or transmitter FIFO), a location (as indicated by READ and WRITE Address Counter 100 and 102) where data to be transmitted or stored after shifting of any register (Receiver and Transmitter Shift Register 10-11) is completed and tracking (via timing and controller 16/20) the bytes of data transmitted or received.

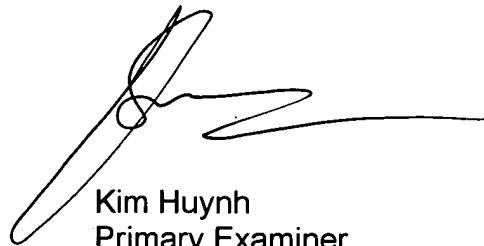
Similarly, Chung also discloses (Fig. 2) an apparatus for buffering a single buffer 1 using write and read address and pointers (2-3) having write and read address counter 5-6 for indicating a location for where data is to be stored or transmitted after

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shifting of any register (the dual port for shifting data from parallel into serial or serial to parallel for storing in the FIFO, col. 1, ll. 40-52) and for tracking the capacity of the memory via control logic 4, wherein the read and write operations as performed at the same time (col. 1, ll. 39-44). As for the transmit and receive shifting sequence, please note data is shift in or out of the FIFO in order to perform the according read or write operations.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Huynh whose telephone number is (571) 272-4147. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.



Kim Huynh  
Primary Examiner  
Art Unit 2182

KH  
3/28/05